Amendments to the claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended)   A method of forwarding packets in a communication system having multiple incoming service interfaces and multiple output service interfaces for providing service to multiple distinct and isolated user networks, said method comprising:

~~maintaining multiple forwarding rules, said~~ providing at least one route server to compute forwarding rules based on routing topology and policing information relevant to each of said distinct and isolated user networks;

providing edge forwarders for terminating said incoming service interfaces and for forwarding received packets, said forwarders relying for routing services on forwarding information received from said at least one route server;

transferring said computed forwarding rules from said at least one route server to said edge forwarders;

receiving said packets at one of said incoming service interfaces;

selecting an appropriate forwarding rule based on a source address in said packets and on the incoming service interface from which the packets are received; and

the corresponding edge forwarder for said one incoming service interface forwarding said packets to one of said output service interfaces, the decision as to which output service interface to forward the packets to being based on a destination address in said packets and information in said selected forwarding rule.

2. (previously presented)   The method as defined in claim 1 wherein said service interfaces support realms, each realm relating to a specific instance of an internetworking service function.

3. (previously presented)   The method as defined in claim 2 wherein said specific instance is a public Internet access service.

4. (previously presented)   The method as defined in claim 2 wherein said specific instance is a virtual private network (VPN) service.

5. (previously presented)   The method as defined in claim 4 wherein said VPN service is a bridged and/or routed connectivity service.

6. (previously presented)   The method as defined in claim 4 wherein said VPN service is a network layer connectivity service.

7. (previously presented)   The method as defined in claim 1 wherein said communication system includes an ATM transport fabric.

8. (currently amended)   A packet forwarding entity for a communication system comprising:

multiple service interfaces providing instances of service to one of a plurality of distinct and isolated user networks;

edge forwarders terminating said service interfaces and forwarding received packets based on received routing information;

multiple at least one route servers server for calculating computing multiple forwarding rules relating to instances of service to which said service interfaces belong based on routing, topology and policing information, the multiple forwarding rules being particular to their respective service interfaces, and said at least one route server being configured to transfer the forwarding rules to said edge forwarders; and

said edge forwarders being configured to direct said service interfaces to user networks based on a destination address and information in said an appropriate forwarding rules rule selected on the basis of a source address in packets received on an incoming service interface.

Claims 9 – 10 are canceled.

11. (previously presented)   The packet forwarding entity as defined in claim 8 wherein said service interfaces related to physical and logical connections.

12. (previously presented)   The packet forwarding entity as defined in claim 11 wherein said logical connections include multiple traffic flows from one or more ingress ports.

13. (previously presented)   The packet forwarding entity as defined in claim 8 wherein one of said instances of service is an internetworking service function.

14. (previously presented)   The packet forwarding entity as defined in claim 13 wherein said internetworking service function is a Public Internet access service.

15. (previously presented)   The packet forwarding entity as defined in claim 13 wherein said internetworking service function is a virtual private network (VPN) service.

16. (previously presented)   The packet forwarding entity as defined in claim 15 wherein said VPN service is a bridged and/or routed connectivity service.

17. (previously presented)   The packet forwarding entity as defined in claim 16 wherein said internetworking service function is provided over an ATM network.

18. (previously presented)   The packet forwarding entity as defined in claim 16 wherein said internetworking service function supports multiple protocols.

19. (previously presented)   The packet forwarding entity as defined in claim 18 wherein said internetworking service function provides services at both the packet and frame levels.

20. (previously presented)   The packet forwarding entity as defined in claim 19 wherein said internetworking service function is managed by a single service provider.

21. (previously presented)   The packet forwarding entity as defined in claim 18 wherein said multiple protocols include Multi-protocol over ATM (MPOA) service via a MPOA client lookup cache management function.

22. (cancelled)